

**Amendments to the Specification:**

**Please delete the following paragraph on page 1, after the title and before the first line:**

~~———— This application claims the benefit of Japanese Application 2001-135425, filed May 2, 2001, and Japanese Application 2001-398620, filed December 27, 2001, the entireties of which are incorporated herein by reference.~~

**Please replace the paragraphs on page 1, lines 4-13, with the following amended paragraphs:**

The present invention relates to a lithium secondary cell (hereinafter simply referred to as "cell"), and more particularly, to a lithium secondary cell with excellent productivity and space-saving ~~capability~~capabilities.

The development of lithium secondary cells is underway as motor drive power supplies for electric cars and hybrid electric cars (hereinafter simply referred to as "electric car, etc.") in response to a growing international demand for resource ~~saving~~ and energy ~~saving~~ savings to protect the global environment.

**Please replace the paragraphs on page 2, line 16 -- page 4, line 6, with the following amended paragraphs:**

However, the collector tabs need to be attached to the electrode plates one by one, for example, by spot-welding, when the electrode body is wound, and the problem is that its

process is complicated. Furthermore, at the edges on the opposite side connected to the electrode plates of the collector tabs, the plurality of collector tabs need to be bound and attached to the internal terminals by, for example, riveting, and therefore ~~its~~ this process is also complicated and has a problem that it is not easy to connect the collector tabs while maintaining them at low resistance. Furthermore, there is another problem that connecting the electrode body and internal terminals using a plurality of collector tabs requires quite a large space ~~accordingly~~.

### Summary of the Invention

The present invention has been implemented in view of the above-described conventional problems and it is an object of the present invention to provide a lithium secondary cell with excellent productivity and space-saving ~~capability~~ capabilities by adopting a configuration that each electrode plate and collector are directly joined to the current lead-out part from the inner electrode body to lead out a current.

~~That is, the~~ The present invention provides a lithium secondary cell comprising an inner electrode body impregnated with a non-aqueous electrolyte, made up of a positive electrode and a negative electrode each made of at least one metallic foil wound or laminated together ~~and a~~ A positive electrode collector and a negative electrode collector are provided to lead out a current from ~~this the~~ the inner electrode body, characterized in that the edges of the ~~above-described~~ metallic foils constituting the ~~above-described~~ positive electrode and/or the ~~above-described~~ negative electrode and predetermined parts of the ~~above-described~~ positive electrode collector and negative electrode collector are joined together to lead out a current from the ~~above-described~~ inner electrode body, ~~and of~~ . That is, the edges of the above-described metallic foils, ~~the~~ are arranged

edges (joint edges) to be joined to the above-described predetermined parts of the above-described positive electrode collector and/or the above-described negative electrode collector and the above-described predetermined parts of the above-described positive electrode collector and/or the above-described negative electrode collector are joined together.

**Please replace the paragraph on page 6, lines 16-23, with the following amended paragraph:**

The positive electrode collector and/or negative electrode collector is preferably formed of the to include a convex part and other a flat part and the difference between the thickness ( $L_2$ ) of the convex part and the thickness ( $L_1$ ) of the flat part is 0.1 mm or more, the thickness of the flat part of the positive electrode collector is preferably 0.4 mm or more and the thickness of the convex part of the positive electrode collector is preferably 0.6 mm or more.

**Please replace the heading on page 12, line 21, with the following amended heading:**

Detailed Description of ~~Preferred Embodiment~~ the Invention

**Please replace the paragraphs on page 12, line 24 – page 13, line 17, with the following amended paragraph:**

As shown in FIG. 4, the lithium secondary cell of the present invention is a lithium secondary cell 68 comprising an inner electrode body (wind type inner electrode body 61) impregnated with a non-aqueous electrolyte, made up of a positive electrode and a negative electrode each made of at least one metallic foil wound or laminated, a positive electrode collector

4A and negative electrode collector 4B to lead out a current from this inner electrode body, characterized in that the edges of at least one metallic foil constituting the positive electrode and/or the negative electrode and predetermined parts of the positive electrode collector 4A and/or negative electrode collector 4B are joined together to lead out a current from the inner electrode body, ~~and of.~~ Of the edges of the metallic foils, the arranged edges (joint edges) 15 ~~to be~~ are joined to the predetermined parts of the positive electrode collector 4A and/or the negative electrode collector 4B ~~and the predetermined parts of the positive electrode collector 4A and/or the negative electrode collector 4B are joined together.~~

**Please replace the paragraphs on page 17, line 15 – page 18, line 3, with the following amended paragraph:**

The following is an example of a method of forming the positive electrode joint of the lithium secondary cell of the present invention. That is, as shown in FIG. 8, this method consists of forming a joint body between the positive electrode metallic foil 1A and the positive electrode collector 4A by placing the positive electrode collector 4A having the convex part 7 protruding toward the predetermined part of the edges (joint edges) 15, which are arranged to be joined to the positive electrode collector 4A of the edges of the positive electrode metallic foil 1A in such a way that the convex part 7 has contact with or comes close to at least one of the narrow end faces 2, ~~irradiating the.~~ The convex part 7 of the positive electrode collector 4A is irradiated with the energy beam 8 and ~~melting the convex part 7 melted,~~ and ~~welding~~ the melted convex part 7 of the positive electrode collector 4A is welded to the joint edges 15 of the positive electrode metallic foil 1A.

**Please replace the paragraphs on page 20, lines 4-11, with the following amended paragraph:**

Furthermore, it is preferable that the thickness ( $L_2$ ) of the convex part of the positive electrode collector 4A be 0.6 mm or more, more preferably 0.7 mm or more and most preferably 0.8 mm or more. This strengthens the joint between the ~~two~~ positive electrode collector and the positive electrode metallic foil. The upper limit of the thickness of the convex part is not limited to a particular one, but can be set according to the limit of irradiation power of the energy beam, etc. as appropriate.

**Please replace the paragraphs on page 26, lines 19-26, with the following amended paragraph:**

Furthermore, it is preferable that the thickness ( $L_2$ ) of the convex part of the negative electrode collector 4B be 0.4 mm or more, more preferably 0.5 mm or more and most preferably 0.6 mm or more. This strengthens the joint between the ~~two~~ negative electrode collector and negative electrode metallic foil. The upper limit of the thickness of the convex part is not limited to a particular one, but can be set according to the limit of irradiation power of the energy beam, etc. as appropriate.